

# IEEE: Build Your Career

李箐

中国区资讯经理

2014



# IEEE TRANSACTIONS ON COMMUNICATIONS

A PUBLICATION OF THE IEEE COMMUNICATIONS SOCIETY



MAY 2013 VOLUME 61 NUMBER 5 IEEE MAY (ISSN 0098-4778)

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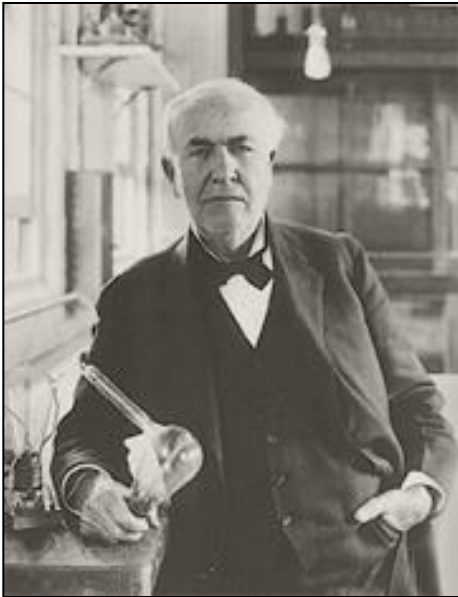


## Members

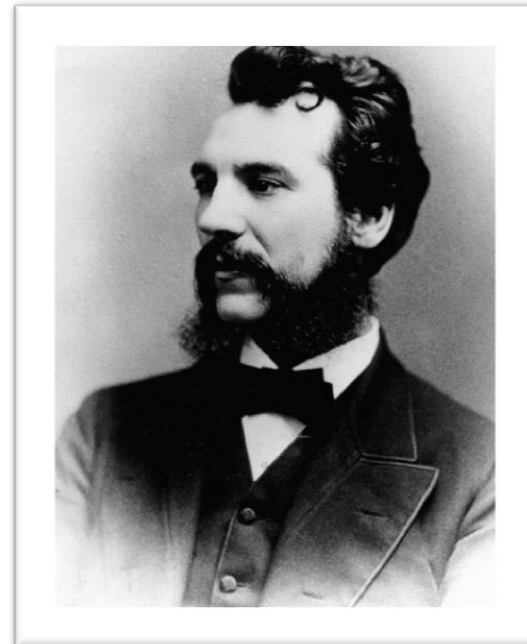


# American Institute of Electrical Engineers

*Founding officers of the American Institute of Electrical Engineers in 1884:*



**Thomas A. Edison**



**Alexander Graham Bell**

# The Institute of Radio Engineers

*Founding member of the Institute of Radio Engineers in 1912:*



**Guglielmo Marconi**



**1912**

Radio telegraph operators' communications with the sinking Titanic demonstrated the power of radio

# AIEE + IRE = IEEE

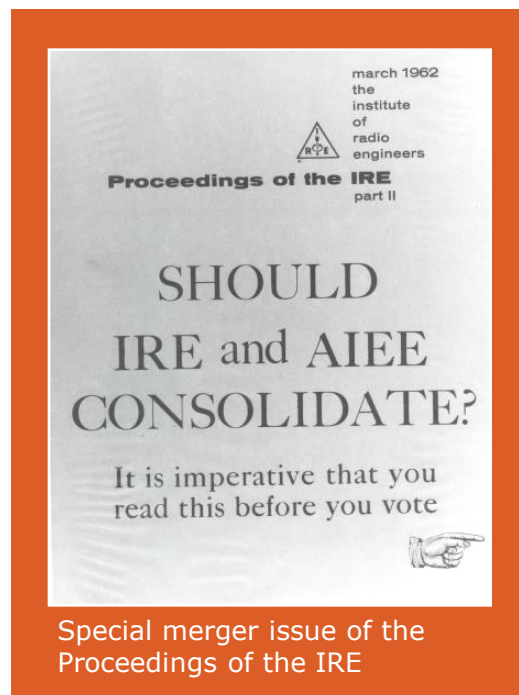
The idea that there should be one organization for all electrical engineers was an old one, and became more powerful as the profession expanded beyond its separate roots in power and radio.

In 1962, the boards and memberships of the two institutes agreed to merge. On **January 1, 1963**, the Institute of Electrical and Electronic Engineers was born with **150,000** members.

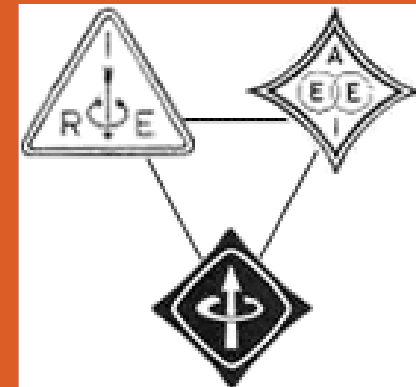


**1962**

Symposium on the proposed merger, IRE National Convention



Special merger issue of the  
Proceedings of the IRE



The badge of the new IEEE  
combined the right hand rule  
from the IRE with the kite from  
the AIEE



# Today's IEEE

- World's largest technical membership association with nearly 429,000 members in over 162 countries



# IEEE Societies

- IEEE Instrumentation and Measurement Society
- IEEE Intelligent Transportation Systems Society
- IEEE Magnetics Society
- IEEE Microwave Theory and Techniques Society
- IEEE Nuclear and Plasma Sciences Society
- IEEE Oceanic Engineering Society
- IEEE Photonics Society
- IEEE Power Electronics Society
- IEEE Power and Energy Society
- IEEE Product Safety Engineering Society
- IEEE Professional Communications Society
- IEEE Reliability Society
- IEEE Robotics and Automation Society
- IEEE Signal Processing Society
- IEEE Society on Social Implications of Technology
- IEEE Solid-State Circuits Society
- IEEE Systems, Man, and Cybernetics Society
- IEEE Ultrasonics, Ferroelectrics, and Frequency Control Society
- IEEE Vehicular Technology Society
- IEEE Aerospace and Electronic Systems Society
- IEEE Antennas and Propagation Society
- IEEE Broadcast Technology Society
- IEEE Circuits and Systems Society
- IEEE Communications Society
- IEEE Components, Packaging, and Manufacturing Technology Society
- IEEE Computational Intelligence Society
- IEEE Computer Society
- IEEE Consumer Electronics Society
- IEEE Control Systems Society
- IEEE Dielectrics and Electrical Insulation Society
- IEEE Education Society
- IEEE Electron Devices Society
- IEEE Electromagnetic Compatibility Society
- IEEE Engineering in Medicine and Biology Society
- IEEE Geoscience and Remote Sensing Society
- IEEE Industrial Electronics Society
- IEEE Industry Applications Society
- IEEE Information Theory Society

# IEEE Resource#1 – Professional Networking

- Involvement in IEEE Societies, Sections and Chapters
- 2,500 IEEE Student Branches worldwide
- Participation in IEEE GOLD (Graduates of the Last Decade) and Women in Engineering
- 1000+ conferences per year
- IEEE MemberNet, MentorNet, LinkedIn, Facebook and Twitter



# IEEE Conferences



# Call For Papers

## Search Conferences

### Search Date

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## ◆ Upcoming conferences and events

### 2010 9th International Conference on Environment and Electrical Engineering (EEEIC)

Promotes a forum where people involved with electrical power systems may exchange their experiences and present solutions found for actual and future problems.

16 May - 19 May 2010 | Prague, Czech Republic

► [Learn more](#)

### 2010 IEEE International Symposium on Circuits and Systems (ISCAS)

The symposium focuses on circuits and systems employing nanodevices and circuit fabrics and their implementation cost, switching speed, energy efficiency, and reliability.

30 May - 2 June 2010 | Paris, France

► [Learn more](#)

### 2010 IEEE International Interconnect Technology Conference - IITC

| May 2010 |    |    |    |    |    |    |
|----------|----|----|----|----|----|----|
| S        | M  | T  | W  | T  | F  | S  |
|          |    |    |    |    |    | 1  |
| 2        | 3  | 4  | 5  | 6  | 7  | 8  |
| 9        | 10 | 11 | 12 | 13 | 14 | 15 |
| 16       | 17 | 18 | 19 | 20 | 21 | 22 |
| 23       | 24 | 25 | 26 | 27 | 28 | 29 |
| 30       | 31 |    |    |    |    |    |

Click shaded dates to see conferences  
Click arrows to view other months

[http://www.ieee.org/conferences\\_events/index.html](http://www.ieee.org/conferences_events/index.html)

## IEEE INFOCOM'2012 Student Activities

The INFOCOM 2012 Student Workshop aims to provide a platform for students to publicize their research work through posters, obtain feedback and learn what problems are being tackled by fellow students. More importantly, it also provides a venue for them to "network" with their peers and established researchers, and obtain valuable advices from informative talks. We invite the submission of abstracts before the deadline below, describing ongoing research in all areas of computer networking and data communications (for a list of topics, please refer to [INFOCOM'2012 Call for Papers](#)). Submitted abstracts must be in PDF format, and must be no longer than 2 pages and in a font size of no smaller than 10 points. Please refer to the [INFOCOM'2012 manuscript preparation page](#) for details. Manuscripts that are not compliant with the requirements may be declined without review. All submissions will be handled electronically in EDAS and will be reviewed by the program committee, from which a number of abstracts will be selected for inclusion in the workshop program. For more information, Please contact Dr. Eylem Ekici at [ekici@ece.osu.edu](mailto:ekici@ece.osu.edu) or Dr. Lei Ying at [leiyang@iastate.edu](mailto:leiyang@iastate.edu).

### Important dates

|                            |                                           |
|----------------------------|-------------------------------------------|
| Abstract due               | January 12, 2012 (extended to January 19) |
| Notification of acceptance | February 5, 2012                          |

# IEEE Student Branches in Taiwan

 **Region 1** (Northeastern U.S.)  
(PDF, 35 KB)

 **Region 2** (Eastern U.S.)  
(PDF, 35 KB)

 **Region 3** (Southern U.S.)  
(PDF, 42 KB)

 **Region 4** (Central U.S.)  
(PDF, 31 KB)

 **Region 5** (Southwestern U.S.)  
(PDF, 38 KB)

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(PDF, 26 KB)

 **Region 8** (Africa, Europe, Middle East)  
(PDF, 131 KB)

 **Region 9** (Latin America)  
(PDF, 127 KB)

 **Region 10** (Asia and Pacific)  
(PDF, 297 KB)

## Tainan Section:

National Cheng Kung Univ

## Taipei Section:

National Taiwan Univ of Sci & Tech

National Central Univ

National Chung Hsin Univ

National Taiwan Univ

National Tsing Hua Univ

National Chiao Tung Univ

National Sun Yat-Sen Univ

National Taiwan Ocean Univ

Yuan-Ze Univ

[http://www.ieee.org/membership\\_services/membership/students/branches/index.html](http://www.ieee.org/membership_services/membership/students/branches/index.html)



710. Officers, helpEEs, and project members have access to the room. [Request Access.](#)

- Tech Talk
- Corporate Visit
- Social Event

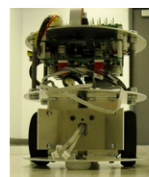
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| Kevin Wang        | Website, R&D, Marketing      |
| Kristine Chen     | Marketing, Website           |
| Mano Pagalavan    | Concessions, Security        |
| Rohit Turumella   | IT                           |
| Sam Whitlock      | Industrial relations         |
| Stephanie Chou    | IT                           |
| Thomas Liu        | lab, R&D, membership         |
| Tianbo Xu         | hope, prodev                 |
| Whitney Lai       | prodev                       |
| Winston Chow      | IT, Website, Security        |
| Jeff Greene       | IT, R&D, Security            |

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IEEE Update Issue 01 November 2009

## Current Projects

### Micromouse



Micromouse is an annual competition in which an autonomous robot must find its way to the center of a maze. The maze is composed of 16x16 cells, each 18x18cm. At the heart of the UCSD Micromouse is an ARM processor programmed with the GNU toolchain. The robot uses optical distance sensors to find its way through the maze. All of Micromouse's PCBs are multi-layer double-sided, laid out by hand and custom fabbed. For debugging, the robot has an LCD display and a Xbee wireless serial link. A single runtime-programmable power supply board takes power from a lithium ion battery pack and converts it to the various voltages required by the processor board, motor controllers, and data interfaces. [Learn more.](#)

### RoboMagellan



RoboMagellan is a robotics competition emphasizing autonomous navigation and obstacle avoidance over varied, outdoor terrain. At the start of the competition, a set of GPS waypoints are programmed into the robot, and it must find its way from start to finish without human intervention. Because of the irregularity of the terrain, the robot must use a combination of its sensory capabilities including GPS, machine vision, optical sensors, and ultrasonic sensors to navigate around the obstacles. The robot

### ViaCar



ViaCar is an annual undergraduate design competition in which students design and build an autonomous race car that can negotiate an arbitrary course in the shortest time possible. The course is marked by 1-inch-wide white floor tape on a dark-colored background (carpet). In addition, there is a wire under the tape driven with a 75 kHz 100mA sinusoidal signal. The competition is held each May at UC Davis. The UCSD robot uses several inductors to convert the changing magnetic field to a changing voltage, which is then digitized and processed by the microcontroller. The robot uses proportional integral/derivative (PID) to control its speed and steering. [Learn more.](#)

### AUVSI



The Association for Unmanned Vehicle Systems International (AUVSI) is the world's largest non-profit organization devoted exclusively to advancing the unmanned systems community. AUVSI, with members from government organizations, industry and academia, is committed to fostering, developing, and promoting unmanned systems and related technologies. The complete mission objectives are for an unmanned, radio controllable aircraft to be launched and transition or continue to autonomous flight, execute a specified mission, and be recovered.

# Professional Networking





# IEEE Affinity Groups

- **IEEE Affinity Groups are non-technical Subunits of one or more Sections or a Council. An Affinity Group is a Local Unit of an IEEE Organizational Unit or Standing Committee, established by petition to the Parent Organizational Unit, to fulfill the purposes of IEEE.**
- **Consultants Network**
- **Graduates of the Last Decade**
- **Life Members**
- **Women in Engineering**

[http://www.ieee.org/societies\\_communities/geo\\_activities/affinity\\_groups.html](http://www.ieee.org/societies_communities/geo_activities/affinity_groups.html)

## Graduates of the Last Decade (GOLD)

### ♦ IEEE Young Professionals



The first ten years after graduation from university can be challenging for young professionals. Employment

## G IEEE Women in Engineering

G

### + G ♦ IEEE Women in Engineering (WIE)

### + G IEEE WIE Home

R

### About IEEE WIE

### + G K Join IEEE WIE

### + G + IEEE WIE Publications

### + G R Awards & Recognition for Women

### Local IEEE WIE Involvement

### + For IEEE WIE Members & Groups

### IEEE WIE Directory

### Frequently Asked Questions

IEEE Women in Engineering (WIE) is the largest international professional organization dedicated to promoting women engineers and scientists and inspiring girls around the world to follow their academic interests to a career in engineering.

#### On this Page:

- > [Who we are](#)
- > [Join IEEE WIE](#)
- > [Change the world—become an engineer](#)
- > [Quick links to information about IEEE WIE](#)

### ♦ Who we are



#### Mission

The mission of IEEE WIE is to facilitate the global recruitment and retention of women in technical disciplines. IEEE WIE envisions a vibrant community of IEEE women and men collectively using their diverse talents to innovate for the benefit of humanity.

> [Learn more about IEEE WIE](#)

> [Download the IEEE WIE logo](#)

[http://www.ieee.org/membership\\_services/membership/women/index.html](http://www.ieee.org/membership_services/membership/women/index.html)

# IEEE Resource #2 – IEEE Jobsite

<http://careers.ieee.org/>

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## IEEE JobSite

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Welcome to the IEEE Job Site – The official IEEE Website for Engineering and Technology Jobs.

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Houston, Texas  
Quantlab Financial
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NEW! IEEE

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Technology  
r Humanity

# IEEE ResumeLab

[www.ieee.org/resumelab](http://www.ieee.org/resumelab)



## Resumes/Curriculum Vitae

- Select from a wide array of templates geared toward specific industries, sectors and work experience stages.



## Letters

- From cover letter to post-interview thank you letter, ensure optimal communication throughout the hiring process.



## Skills Assessment

- Highlight the skills that you possess, your competency in those skills, and what makes your experience with these skills unique.



## Mock Interviews

- Prepare for the real thing by selecting an interviewer and the type of questions they'll ask.
- Choose to record your interview for evaluation and feedback.



## Video Resumes

- Record custom video messages for potential employers.



## Portfolios

- Upload and organize your past work to present to potential employers.



## Share Online

- Publish and share everything you create on a publicly viewable website.

# Connect with Industry Leaders

## Standards Education

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♦ **Standards Education Menu**

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✚ [Purpose of Standards Education](#)

[Standards in the Classroom](#)

✚ [Tutorials](#)

[Case Studies](#)

✚ [Student Application Papers](#)

[Standards Reference Directory](#)

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[Announcements](#)

[Additional Resources](#)

As the world's leading standards developer, IEEE is also a leading source of information and resources on standards, their applications, and their impact on designing new products, processes, and services.

**On this Page:**

- › [Commitment to standards education](#)
- › [Resources](#)

---

♦ **Commitment to standards education**



IEEE is committed to:

- promoting the importance of standards in meeting technical, economic, environmental, and societal challenges;
- disseminating learning materials on the application of standards in the design and development aspects of educational programs;
- actively promoting the integration of standards into academic programs;
- providing short courses about standards needed in the design and development phases of professional practice.

↑ [top of page](#)

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♦ **Resources**

**“If you control an industry’s standards, you control it lock, stock and ledger.”**

**“Standardization programs offer one of the best, most important means to evaluate current technology and provide a glimpse of where future technology innovations may occur.**

***The Strategic Value of Standards Education***

**A Global Survey conducted by the Center for Global Standards Analysis**

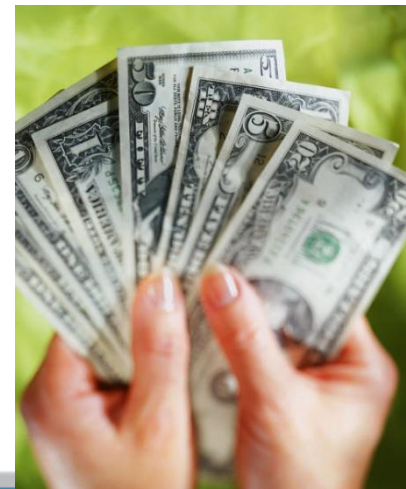




# IEEE Mini-Grants and Student Application Papers

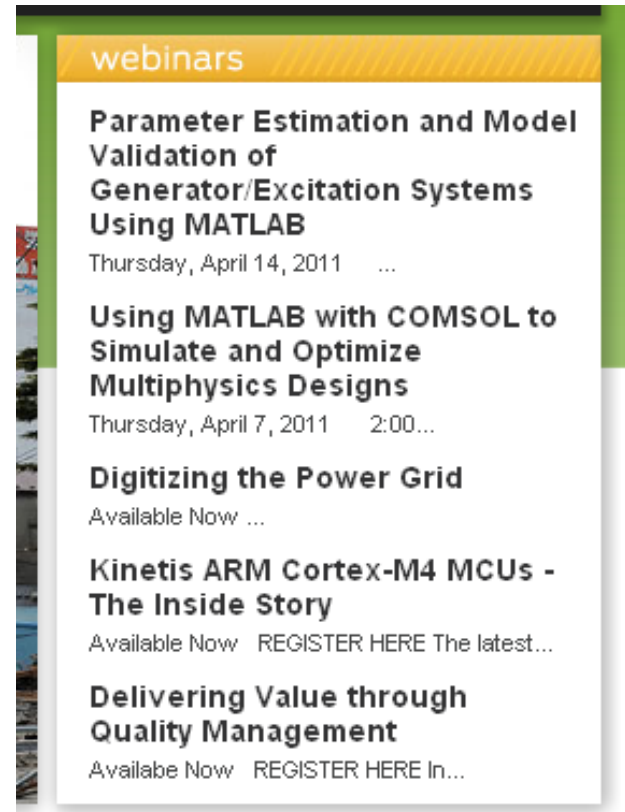
- **SEC is offering Mini-Grants to students and faculty mentors**
- **Help with graduate and undergraduate last-year design projects that contain an industry standards component**
  - **\$500 grants for students**
  - **\$300 grants for faculty advisors**

<http://standardseducation.org/applications>



# IEEE Resource #3 – Free Webinars

- <http://spectrum.ieee.org/webinar/;>
- <http://www.comsoc.org/webinars>
- <https://www.ieeecommunities.org/>
- [http://www.ieee.org/membership\\_services/membership/gold/events/index.html](http://www.ieee.org/membership_services/membership/gold/events/index.html)
- ...



**webinars**

**Parameter Estimation and Model Validation of Generator/Excitation Systems Using MATLAB**  
Thursday, April 14, 2011 ...

**Using MATLAB with COMSOL to Simulate and Optimize Multiphysics Designs**  
Thursday, April 7, 2011 2:00...

**Digitizing the Power Grid**  
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**Kinetis ARM Cortex-M4 MCUs - The Inside Story**  
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Available Now REGISTER HERE In...

# IEEE Resource #4

## Recognition by those respected in your field

- **Leadership experience w/in an IEEE Student Branch**
- **IEEE Student Branch awards**
- **IEEE student competitions (Xtreme Programming, President's Challenge)**
- **Scholarships, fellowships, travel grants, paper competitions**
- **Paper and poster presentations at IEEE conferences**
- **Publishing, reviewing, editing IEEE publications**
- **IEEE member grade advancement**
- **Medal of Honor, Medals, Technical Field Awards, Corporate Recognitions, Service Awards, Prize Papers...**

# More Resources For You

## ■ IEEE Fellowship/Scholarship

- IEEE Charles LeGeyt Fortescue Fellowship
- IEEE Computational Intelligence Society Conference Travel Grants
- IEEE Computational Intelligence Society Summer Research Grant
- IEEE Components, Packaging, and Manufacturing Technology Society Graduate Fellowship for Research on Electronic Packaging
- IEEE Computer Society Merwin Scholarship
- IEEE Dielectrics and Electrical Insulation Society Graduate Student
- IEEE Electron Devices Society Graduate Student Fellowship
- .....

## ■ IEEE Competitions

- Presidents' Change the World Competition
- IEEE Computer Society Simulator Design Competition
- Student paper contest
- .....

[http://ieee.org/membership\\_services/membership/students/awards/index.html](http://ieee.org/membership_services/membership/students/awards/index.html)

# Related IEEE Programs

- **Engineering Projects in Community Service (EPICS)**

[http://www.ieee.org/education\\_careers/education/preuniversity/epics\\_high.html](http://www.ieee.org/education_careers/education/preuniversity/epics_high.html)

- **Engineering for Change**

<https://www.engineeringforchange.org>

- **IEEE Xtreme 24-Hour Programming Competition**

<http://www.ieee.org/xtreme>

- **IEEE Presidents' Change the World Competition**

[www.ieee.org/changetheworld](http://www.ieee.org/changetheworld)

All programs driven by students and recent graduates...



# Exciting Contest!

## IEEE Xtreme Programming

Worldwide, 24-hour programming challenge for IEEE Student Branches

**Top prize is a trip anywhere in the world to the IEEE event of the top team's choice!**

[http://www.ieee.org/membership\\_services/membership/students/competitions/xtreme/index.html](http://www.ieee.org/membership_services/membership/students/competitions/xtreme/index.html)

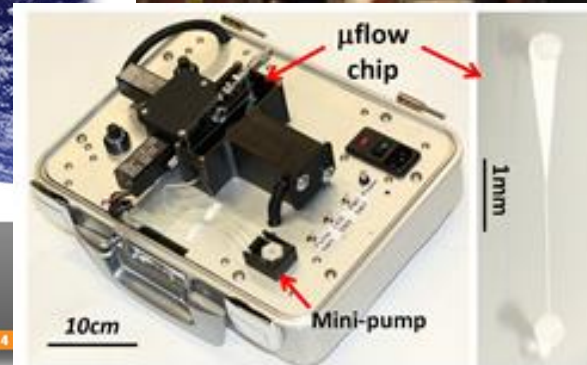


# Exciting Contest!

## IEEE President's "Change the World" Competition

Recognizes students or teams of students who develop unique solutions to real-world problems using engineering, science, computing and leadership skills to benefit their community or humanity

**Opportunity to win US \$10,000**  
**US \$ 5,000**  
**US \$ 2,500**



# Become a Member-Staying Technically Current

## IEEE Spectrum Magazine

- Monthly, the award-winning IEEE Spectrum magazine explores the creation, application and implications of new technologies

## IEEE.tv

- IEEE's Internet television, exclusive Member programming and file downloading privileges

## The Institute Newsletter

- Monthly (4 print, 8 online) newsworthy IEEE activities both in professional and technical areas

## IEEE Potentials Magazine

- 6 issues (online), the magazine for technology's rising, student innovators

## IEEE Xplore Digital Library

- IEEE Journals, Magazines, Conference Proceedings and Standards (2.5 million documents)





# Become a Member-Career Development

## IEEE Job Site, Career Alert

- ☐ Locate career opportunities easily and confidentially
- ☐ Weekly email newsletter containing career advice

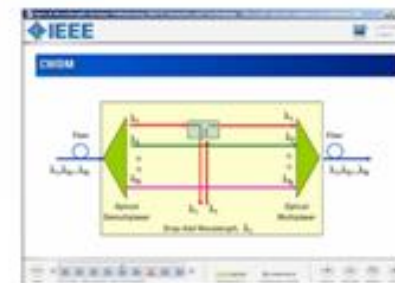
## Awards & Scholarships

- ☐ Recognizes the accomplishments of IEEE members
- ☐ Enhance your resume with an IEEE scholarship

## Conferences

- ☐ Presenting and Networking Opportunities

Education Partners Program (EPP-IEEE)



## IEEE Job Site FEATURED JOBS

**Senior Research**  
Athlone, Ireland  
Ericsson Ireland

**Electrical Engineer**  
Palmetto, FL  
ITW GSE Group -  
Triletron

**Electromagnetic  
Research Scientist**  
Champaign, IL  
SAIC

**Automation/Controls  
Engineer (Robotics)**  
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# Member Grade Elevation

- **Student Member**
- **Member**
- **Senior Member**
- **Fellow**
- **Life Member/Fellow**

[http://www.ieee.org/membership\\_services/membership/grade\\_elevation.html](http://www.ieee.org/membership_services/membership/grade_elevation.html)

[http://www.ieee.org/membership\\_services/index.html](http://www.ieee.org/membership_services/index.html)

**Qing Li**  
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